



JPW

PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
)  
Seiichiro MIZUNO, et al. )  
)  
Application No.: 10/821,272 ) Group Art Unit: Unassigned  
)  
Filed: April 9, 2004 ) Examiner: Unassigned  
)  
For: LIGHT EMITTING ELEMENT DRIVING )  
CIRCUIT )

Commissioner for Patents  
U.S. Patent and Trademark Office  
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Customer Window  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

Sir:


**SUBMISSION OF INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

A translation of an International Preliminary Examination Report ("IPER") issued in corresponding PCT/JP02/10548 is attached. Applicants respectfully request that the Examiner consider the IPER as it relates to the above-identified application.

Respectfully submitted,

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Dated: June 25, 2004  
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**Translation**

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FP02-0218-00	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP02/10548	International filing date ( <i>day/month/year</i> ) 10 October 2002 (10.10.02)	Priority date ( <i>day/month/year</i> ) 11 October 2001 (11.10.01)
International Patent Classification (IPC) or national classification and IPC H01S 5/062		
Applicant HAMAMATSU PHOTONICS K.K.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 10 October 2002 (10.10.02)	Date of completion of this report 04 July 2003 (04.07.2003)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP02/10548

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP02/10548

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims	8, 10-11	YES
	Claims	1-7, 9	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

## 2. Citations and explanations

Document 1: JP, 9-83442, A (OKI ELECTRIC INDUSTRY CO., LTD.), 28 March 1997 (28.03.97), full text, all drawings

Document 2: JP, 6-45675, A (SONY CORPORATION), 18 February 1994 (18.02.94), full text, all drawings

Document 3: JP, 2001-36187, A (SONY CORPORATION), 9 February 2001 (09.02.01), full text, all drawings

Document 4: JP, 11-40855, A (SHARP CORPORATION), 12 February 1999 (12.02.99), full text, all drawings

Document 5: JP, 63-67791, A (NEC CORPORATION), 26 March 1988 (26.03.88), full text, all drawings

Document 6: JP, 58-182144, A (HITACHI, LTD.), 25 October 1983 (25.10.83), full text, all drawings

Document 7: JP, 2000-252756, A (CANON INC.), 14 September 2000 (14.09.00), full text, all drawings

Document 8: EP, 0909973, A2 (FUJITSU LIMITED), 21 April 1999 (21.04.99), full text, all drawings & JP, 11-119175, A

## Claims 1, 9

Documents 1-3 describe a light-emitting element drive circuit consisting of a current mirror circuit. Documents 1 and 4-6 describe a constitution that superimposes an auxiliary current (pulse current in document 6) in synchronization with the rise or fall of the pulse current.

Therefore, adding a superimposing means for superimposing an auxiliary pulse current to a light-emitting element drive circuit consisting of a current mirror circuit is a mere matter of design variation for a person skilled in the art.

## Claims 2-7

These claims merely specify the circuit constitution of a light-emitting element drive circuit or a superimposing means; there appears to be nothing distinctive about this constitution.

## Claims 8, 10-11

Documents 7 and 8 are documents describing the general level of the art in the relevant technical field, and describe a field effect transistor and source follower circuit, but adding a source follower circuit upstream from the light-emitting element and achieving high-speed rise and fall and producing an output waveform with no linking is neither described nor suggested in any of the documents cited in the aforesaid ISR.